III. REMARKS

The Office has expressed concern under 35 U.S.C. §102 as to claims 29-34 and 43-48 as based on the Skelton patent (US Patent No. 5,642,590, hereinafter Skelton). What follows is a explanation of why the rejections should be withdrawn. Applicant notes that amendments have been made to claims 29, 30 and 31.

Claims 29-30: The Examiner expressed concern as to claims 29 and 30 based on Skelton.

Applicant has canceled claims 29 and 30 without prejudice.

Claims 31-34: The Examiner expressed concern as to claims 31-34 based on Skelton.

Applicant first notes that it has amended claim 31 to more clearly point out a manner in which its subject matter is different from that disclosed by Skelton. In particular, claim 31 (and its dependent claims) now restricts the total number of planes occupied by all the compression members of the structure to two.

As a preliminary matter, Applicant respectfully explains that Skelton instead discloses subject matter that, as Skelton states, is more properly characterized as a deployable structure having a total of six or more struts (see column 4, lines 43-46 of Skelton) lying on the surfaces of **three or more** planes. It is clear from Figs. 1 and 2 of Skelton that Skelton's struts lie on the surfaces of more than two planes. It would not be a simple matter to change the structure of Skelton such that the struts would lie on the surfaces of only two planes, as such a structure (i.e., one having the general strut/tendon configuration of Skelton) would simply lose its structural integrity.

Applicant explains that claims 31 (and its dependencies) should not generate a 35 USC §102 rejection because claim 31 (and its dependencies) has compression members in only two planes, whereas Skelton discloses struts in more than two planes.

Claims 43-46: The Examiner expressed concern as to claims 43-46 based on Skelton.

Applicant explains that new claims 43-46 are novel with respect to Skelton in that, as but one reason, these claims are limited to structures that include outer tension member attachments that define an outer enclosing surface that has only polygonal faces, and inner tension member attachments that are disposed ***within*** this outer enclosing surface (see, e.g., Figs. 6A, 6B and 6C of the instant application). Skelton simply does not disclose, teach or suggest such an arrangement of tension members and/or attachments. Indeed, Skelton discloses all tendons and tendon-to-strut connections ***on the structure's periphery***.

Advantages of Claim 43's Subject Matter Relative to Skelton: One way that claims 43-46 (claims having inner compression member-to-tension member attachments that are situated within outer compression member-to-tension member attachments that form polygonal faces) modify the operation of Skelton is by providing a novel solution to structural design problems, including those with certain attachment point configuration requirements that cannot be met by Skelton.

Claims 47 and 48: The Examiner expressed concern as to claims 47-48 based on Skelton.

Applicant also notes that independent claims 47 and 48 are novel in that, as but one reason, they are limited to structures having tension members arranged in a radial or an internal configuration, respectively. Applicant notes that Skelton does not disclose, teach or suggest a radial tension member configuration, nor does it disclose an internal tension member configuration, as defined in the instant application. The configuration of the tendons 14 of Skelton is mutually exclusive of and entirely different from radial and internal configurations disclosed in the instant application and appearing as limits of either claim 47 or 48.

What might be helpful to the Examiner's understanding of the differences between Skelton's tendon configuration and a radial tension member configuration, and between Skelton's tendon configuration and an internal tension member configuration is reference to Fig.

1A (circumferential tension member configuration), Fig. 2A (radial configuration), and Fig. 2B (internal configuration) of the instant application. These figures give a simple, easy-to-understand diagrammatic illustration of the differences among these three different types of guying. The Applicant submits that upon the Examiner's comparison of the arrangement of tendons 14 of any of the Skelton's Figs. 1-6 with the internal or radial arrangement of tension members of the instant application (see, e.g., Fig. 2A, 2C, 2D, 3A and 6C (radial arrangement); and Fig. 2B, 3B and 4A (internal arrangement)), it will become apparent that, indeed, Skelton does not disclose an internal tension member configuration, and Skelton does not disclose an internal tension member configuration, each of which is a limit in either of claims 47 or 48 of the instant application.

Indeed, Skelton appears to more closely disclose what may be termed a circumferential configuration. Applicant appreciates the opportunity to educate the Examiner in the field of three-dimensional structures and requests that the Examiner withdrawal its novelty concerns as to claims 47 and 48.

Advantages of Claim 47's Subject Matter Relative to Skelton: One way that Claim 47 (a claim with some tension members arranged in a radial configuration) modifies the operation of Skelton is by reducing the overall length of guys that, in Skelton, are arranged in a manner other than radial. This, of course, results in a more efficient and economic design. Additionally, as compared with Skelton's manner of arranging tension members, a radial tension member configuration will reduce the number of tension member attachments at at least one of the compression member ends, resulting in a more simplified, more easily manufactured, and possibly a less expensive structure. Further, an improvement in structural integrity, particularly in structural response to certain applied forces, is realized with the radial tension member configuration, as compared with the configuration of Skelton's tendons. More specifically, when an overall tensile force is applied to a structure having a radial arrangement of tension members, and that tensile force is applied in a plane that is substantially parallel to the plane in which the radial arrangement of tension members is situated (e.g., an end plane), and that tensile force is applied in a radially outward direction the instant applications radial arrangement of guys results in a more effective resistance to the force than is

observed with the manner of guying exhibited in Skelton. The instant applicant radial arrangement results in less (by about ½) deformation per given externally applied tensile load than is observed in Skelton.

Advantages of Claim 48's Subject Matter Relative to Skelton: One way that Claim 48 (a claim with some tension members arranged in an internal configuration) modifies the operation of Skelton is by allowing a directing of tension members along pathways that simply is not possible with Skelton and its configuration of tendons. This enablement, afforded by the internal tension member configuration of the indicated claims of the instant application, allows the avoidance of obstructions and/or the achievement of other design goals such as preferred tension member attachments points. Additionally, internal tension member configuration will reduce the number of tension member attachments at at least one of the compression member ends, resulting in a more simplified, more easily manufactured, and possibly, a less expensive structure.

Additional Remarks:

The amendments submitted herein should be understood to be made as a practicality only, and should not to be construed as creating any situation of file wrapper estoppel or the like as all rights are expressly reserved and may be pursued in this or other applications, such as divisionals, continuations, or continuations-in-part if desired. Relatedly, it should be understood that the amendments made herein are made for tangential issues of clarity and as a matter of the Office's convenience or expedience only. The amendments should not be interpreted as an action that in any way surrenders a particular equivalency, surrenders any right to patent coverage, or otherwise limits any rights which the Applicant may now or hereafter assert. It should be understood that, unless and to the extent deemed broadened by this amendment, and even as amended, the Applicant expressly reserves all rights, including but not limited to: all rights to maintain the scope of literal coverage with respect to any element as may have existed under the language previously presented, all rights to maintain the scope of equivalency coverage as may have existed under the language previously presented, and all rights to re-present the prior language at any time in this or any subsequent application. To the extent currently foreseeable, no change or reduction in direct or equivalency

coverage is believed to exist, and no change or reduction in direct or equivalency coverage is intended through the presentation of this amendment.

IV. Conclusion

In a November 2, 2004 office action communication, the Office raised concerns under 35 U.S.C. §102 as to claims 29-34 and 43-48 as based on the Skelton patent. In response, the Applicant submits this amendment, explanation and request for reconsideration to fully address the Office's November 2, 2004 office action. The Applicant believes all concerns have been addressed and that all claims remaining in the case – claims 20-28, 31-38, 43-55 – are in condition for allowance. Reconsideration and allowance of these remaining claims is respectfully requested at the Examiner's earliest convenience. Finally, should the Examiner have any remaining questions or disagree with any of Applicant's explanations, it is requested that the Examiner contact the undersigned by telephone in order to expedite the processing of this application.

Dated this 2nd day of February, 2005.

Respectfully submitted,
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